

REMARKS

Claims 1-12 are pending in this application. By this Amendment, claims 1-3, 10 and 12 are amended. Support for the amendment to claim 1 can be found at least in Figs. 3-8 and paragraphs [0078] - [0094] and support for the amendments to claim 10 can be found at least in paragraphs [0028], [0029] and [0065] of the originally filed specification. No new matter is added.

Claim 10 was rejected under 35 U.S.C. §112, first paragraph. Claim 10 has been amended to contain subject matter described in the specification, and thus one of ordinary skill in the art could clearly make or use the invention.

It is respectfully requested that the rejection be withdrawn.

Claims 1-12 were rejected under 35 U.S.C. §112, second paragraph.

The Office Action alleges that it is not clear what "sequence" is referring to in "a sequence specified in advance." Claim 1 has been amended to replace "a sequence" with "one by one as one unit in an assembling sequence" in order to clarify "sequence."

The Office Action also alleges that it is unclear how many tires are being built within the context of the claim. The Office Action notes that the preamble refers to a method "for tires in plural sizes" and the claim also calls for "at least two combinations of green tires in different sizes" but alleges that the remainder of the claim only calls for forming a single tire. In order to clarify that multiple tires are built as part of the method, claim 1 has been amended to recite "wherein the foregoing steps are repeated to continuously mold green tires in mixed plural sizes." Thus, claim 1 clearly calls for molding multiple tires.

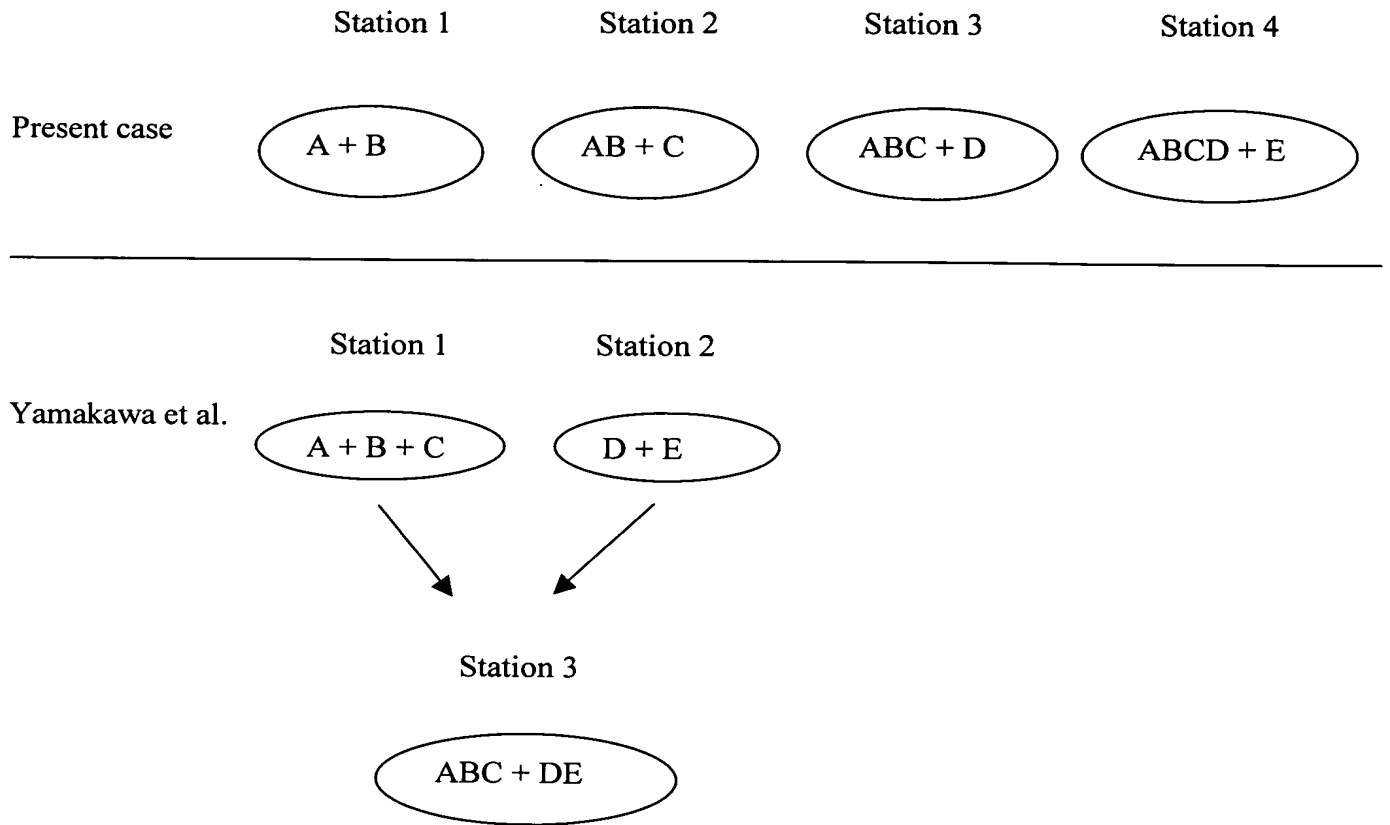
It is respectfully requested that the rejection be withdrawn.

Claims 1, 3-5, 7-9, 11 and 12 were rejected under 35 U.S.C. §103(a) over Yamakawa et al., EP 448 407, in view of Okada et al., U.S. Patent Application Publication No. 2001/0002608. The rejection is respectfully traversed.

Claim 1 recites molding a green tire by assembling all tire component members of the green tire specified in advance one by one as one unit in an assembling sequence specified in advance. Claim 1 also recites expanding the diameter of the molding drum, toroidally extending the carcass band between the bead cores, rolling up a side portion of the carcass band around the bead cores outward in a radial direction, assembling tire component members, including a belt member and a tread member, with the bead cores locked to the molding drum and molding the green tire. In rejecting the previously submitted claims, the Office Action alleged that Yamakawa teaches or suggests all of the features of previously submitted claim 1 except for rolling up a side portion of the carcass band around the bead cores. Applicants respectfully assert that the applied references fail to teach or suggest all of the above referenced features of claim 1 for at least the following reasons.

Yamakawa teaches that a green case 12 with side treads is produced in a green case building machine 5 and a BT (belt-tread) band 13 is produced in the BT band building machine 6, separately, and then the green case 12 supplied from the green case building machine 5 and the BT band 13 supplied from the BT band building machine 6 are combined as depicted in Fig. 2D to produce a green tire 14 shown in Fig. 2E. See Yamakawa at col. 4, lines 22-36. That is, in Yamakawa, a green case 12 and a BT band 13 are independently built and then the finished green case 12 unit and the finished BT band 13 unit are combined with each other to produce a green tire. Accordingly, the method of Yamakawa does not satisfy the above referenced features of claim 1. That is, all of the specified tire component members are not cumulatively assembled one by one as one unit in a sequence specified in advance and the tire component members, a belt member and a tread member in particular, are assembled with the bead cores locked to the expanded toroidal molding drum, as called for in claim 1.

Applicants provide a graphical explanation of the differences between claim 1 and Yamakawa below.



Additionally, Applicants assert that Yamakawa fails to suggest the above referenced features of claim 1. In the method of Yamakawa, if each of the green case 12 and the BT band 13 were to be built in a one unit manner as called for in claim 1, the resulting green case 12 and BT band 13 would eventually have to be combined with each other in a state where a belt member and a tread member are assembled with the bead cores not locked in the expanded toroidal molding drum. Therefore Yamakawa fails to suggest assembling tire

component members, including a belt member and a tread member, with the bead cores locked to the molding drum and molding the green tire.

Additionally, Okada fails to overcome the deficiencies of Yamakawa. In Okada, the band member 140 constituted of a side wall 141, an inner liner 65, a carcass band 75 and the belt/tread member 150 constituted of a first belt 151, a second belt 152 and an under tread 152 are built separately and then eventually combined with each other to produce a green tire. See Okada's Figs. 4-6. Thus, Okada fails to overcome the deficiencies of Yamakawa.

Also, Applicants assert that in the methods of Yamakawa and Okada, the features that a green case and a BT band are built independently and the finished green case and the finished BT band are later combined to produce a green tire is so fundamental to the processes of Yamakawa and Okada that one of ordinary skill in the art would not modify Yamakawa and Okada to achieve the features of claim 1.

Further, Yamakawa's and Okada's methods require that a green case and a BT band be built independently and the finished green case and the finished BT band later combined to produce a green tire. It is highly unlikely that the time required for building a green case and the time required for building a BT band would match. Thus, one of the finished green case and the finished BT band has to wait for the other at the green tire building section. This will inevitably generate significantly long idle time for a significant amount of unwanted stock of the case or the band. This is extremely undesirable in terms of enhancing production efficiency. Both Yamakawa and Okada are utterly indifferent to reducing idle time or improving tact time.

In contrast, the present invention, as recited in claim 1, can avoid such a problem and instead can reduce tact time and achieve the highest possible production efficiency.

Claims 3-5, 7-9, 11 and 12 are patentable by reason of their dependency from independent claim 1, as well as for the additional features they recite.

It is respectfully requested that the rejection be withdrawn.

Claim 2 was rejected under 35 U.S.C. §103(a) over Yamakawa in view of Okada and at least one of Akiyama, U.S. Patent No. 6,475,319, and Ikeda et al., U.S. Patent Application Publication No. 2002/0074077. The rejection is respectfully traversed.

As discussed above, the combination of Yamakawa and Okada fail to teach or suggest all of the features of claim 1 and Akiyama and Ikeda fail to overcome the deficiencies of Yamakawa and Okada. Thus, claim 2 is patentable by reason of its dependency from independent claim 1, as well as for the additional features it recites.

It is respectfully requested that the rejection be withdrawn.

Claim 6 was rejected under 35 U.S.C. §103(a) over Yamakawa in view of Okada and Senbokuya et al., U.S. Patent No. 6,616,783. The rejection is respectfully traversed.

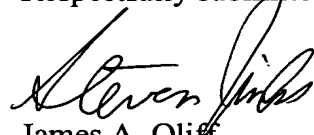
As discussed above, Yamakawa and Okada fail to teach or suggest all of the features of independent claim 1 and Senbokuya fails to overcome the deficiencies of Yamakawa and Okada. Thus, claim 6 is patentable by reason of its dependency from independent claim 1, as well as for the additional features it recites.

It is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Request for Continued Examination

Date: June 22, 2009

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